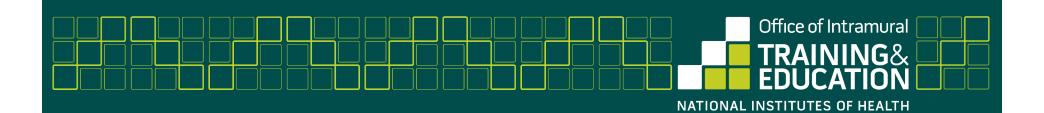
# Preparing for the GRE

William J. Higgins



# Why are we here?

- Review the application / acceptance process
- Review the GRE and relevant information
- Suggest a method and schedule of study
- Develop a plan to maximize your scores on the GRE

# What does a graduate student do?

# Higgins's List of Things Great Grad Students Do:

- Understand the research process
- Read well
- Speak well
- Manage time
  - Know their 'good' times
  - Time on task
- Work hard, play hard and sleep fast
- Have solid personal relationships
- Maintain a positive attitude

# The application process is very straightforward

# Finding your Graduate Program

- Defining your interests
- Locating resources to assist you locate appropriate programs & investigators
- Doing your homework
- Establish your criteria
- Making it personal

# Overview of application process

- GRE exam
  - When?
  - Which tests?
- On line applications
- Personal Statements!
- Your Letters
- Transcripts
- Follow up letters & a phone call
- Interviews & visit days
- Apply early!

# GRE Subject Test Dates, 2011-12

#### For Testing in the United States and Puerto Rico

Test Dates (MM/DD/YY)	Regular Registration Deadline (MM/DD/YY)	Late Registration Deadline 1 (MM/DD/YY)	Supplementary Test Center and Monday Administration Registration Deadline <sup>2</sup> (MM/DD/YY)	Scores by Phone Date (MM/DD/YY)	Approximate Score Report Mailing Date and View Scores Online (MM/DD/YY)
10/15/11	09/09/11	09/16/11	08/26/11	11/14/11	11/25/11
11/12/11	10/07/11	10/14/11	09/23/11	12/12/11	12/23/11
04/21/12	03/16/12	03/23/12	03/02/12	05/21/12	06/01/12

# Overview of application process

- GRE exam
  - When?
  - Which tests?
- On line applications
- Personal Statements!
- Your Letters
- Transcripts
- Follow up letters & a phone call
- Interviews & visit days
- Apply early!

## Personal Statements: 3 parts

- Who you are & why you want research as a career
- Description of your past research as evidence of your abilities
- Clear and specific statements about the match with this program

# Overview of application process

- GRE exam
  - When?
  - Which tests?
- On line applications
- Personal Statements!
- Your Letters
- Transcripts
- Follow up letters & a phone call
- Interviews & visit days
- Apply early!

### **Selection Criteria**

- GPA overall and science
  - Note trends
- GRE scores
- Application essays
- Research Experience
- Letters

### **Graduate Record Examination**

www.gre.org

## Two questions for today:

- 1. What is at stake with the GRE? (How important is it to your application?)
- 2. Can I really make a difference in my score by spending some preparation time?

### N.B. - You ARE a test taker!

A funny thing happened to the ETS & its GRE......



#### **For Test Takers**

For Institutions >

#### The GRE® revised General Test is here!

Test takers around the world are now experiencing the new test-taker friendly design and question types on the GRE revised General Test, which replaced the GRE® General Test on August 1, 2011. Remember, if you test in August

#### Revised General Test >

- About the Test
- · Register for the Test
- · Prepare for the Test

#### Important Updates

ETS offices in the U.S. will be closed September 5

GRE® testing and test registration temporarily suspended in Syria

Save 50% On Your Test Fee



#### FOR TEST TAKERS

ETS Home > GRE > Revised General Test > About the Test

#### Revised General Test

#### > About the Test

Test Content and Structure

GRE for Business School

Test Fairness and Validity

Fees

Bulletin and Forms

Tools for Success

#### Register for the Test

Prepare for the Test

On Test Day

Scores

Frequently Asked Questions

#### **Subject Tests**

#### About the GRE® revised General Test

### One Test for Graduate and Business School. More Opportunities for Success.

Getting an advanced degree can create many opportunities. The GRE® revised General Test — the most widely accepted graduate admissions test worldwide — can bring you one step closer to achieving your career goals. And there has never been a better time to take the one test that gives you more opportunities for your future.

In August 2011, the GRE revised General Test replaced the GRE® General Test. Featuring the new test-taker friendly design and new questions, the revised test more closely reflects the kind of thinking you'll do in graduate or business school and demonstrates that you are ready for graduate-level work.

- Verbal Reasoning Measures your ability to analyze and evaluate written material and synthesize information obtained from it, analyze relationships among component parts of sentences and recognize relationships among words and concepts.
- Quantitative Reasoning Measures problem-solving ability, focusing on basic concepts
  of arithmetic, algebra, geometry and data analysis.
- Analytical Writing Measures critical thinking and analytical writing skills, specifically
  your ability to articulate and support complex ideas clearly and effectively.



Register for the GRE® revised General Test

Register Now >

Save 50% when you take the GRE revised General Test

in August or September 2011. Find out how >

Get FREE test prep and more for the GRE revised General Test.





# GRE® Information and Registration Bulletin

Introducing



#### Did you know?

 The GRE® revised General Test is being introduced on August 1, 2011 and features a better test experience and new question types. Details inside.

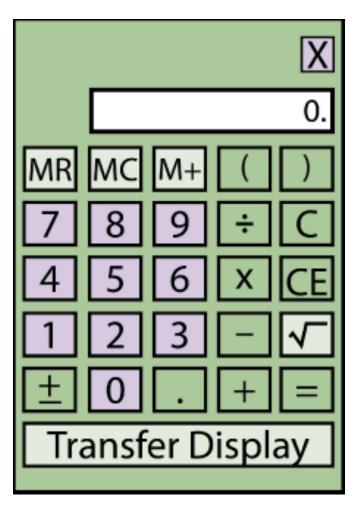
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### New vs. Old GRE

- 4 vs 3 hours
- Adaptive scoring by section vs adaptive scoring by question
- You may tag and skip questions and return vs old 'pull the trigger and move on'
- More use of statistics, coordinate geometry and quadratic equations
- Numeric entry, multiple correct answers

## Calculator



*Note*: no log<sub>10</sub> function

### New vs. Old GRE

- Reasoning and context understanding vs. antonyms and analogies
- Sentence equivalents
- Text completion
- Reading comprehension and passage highlighting

#### Here are the changes that give you a better test experience\*:

- · New preview and review capabilities within a section
- . New "mark and review" feature to tag questions, so you can skip and return later
- · New ability to change/edit answers within a section
- New on-screen calculator for the Quantitative Reasoning section
- New questions that better reflect the skills you'll need for graduate and business school
- New answer formats, including tasks such as numeric entry and highlighting a sentence in a passage to answer a question
- Less reliance on vocabulary out of context, more emphasis on reading and no antonyms or analogies

To practice for the computer-based revised General Test, <u>download the FREE POWERPREP®</u>

Il Software. It includes a Test Preview Tool and a Practice Test and is designed to help you get familiar with the new test design and various question types.

You can also purchase <u>The Official Guide to the GRE® revised General Test</u> and <u>ScoreltNow!™ Online Writing Practice</u> for additional practice.

To practice for the paper-based test, view the FREE <u>Practice Book for the Paper-based GRE</u> <u>revised General Test</u> (PDF), which also contains a practice test.

### Score Reporting

The scores for the GRE revised General Test include:

- a Verbal Reasoning score reported on a new 130-170 score scale, in one-point increments
- a Quantitative Reasoning score reported on a new 130-170 score scale, in one-point increments
- an Analytical Writing score reported on a 0-6 score scale, in halfpoint increments

~ 675,000 test takers in 2011

# **Receiving Scores**

MONTH	MILESTONE
	2011
AUGUST – SEPTEMBER	<ul> <li>August 1: First day of testing for the GRE revised General Test</li> <li>August 1 – September 30: <u>Save 50% on your test fee</u>; if you test during this period, your scores will be sent by mid-November</li> </ul>
OCTOBER – NOVEMBER	<ul> <li>If you test between October and November, you should <u>check the</u> <u>detailed score reporting schedule</u> to know what day your scores will be sent</li> </ul>
DECEMBER	<ul> <li>Normal score reporting resumes. Your score report will be sent 10 – 15 days after your test date</li> </ul>

Computer-based revised General Test Dates	Approximate Score Report Mailing Dates and View Scores Online Dates
August 1, 2011 - September 8, 2011	November 8, 2011
September 9, 2011 - October 2, 2011	November 10, 2011
October 3, 2011 - October 15, 2011	November 17, 2011
October 16, 2011 - November 18, 2011	December 1, 2011
November 19, 2011 - November 28, 2011	December 8, 2011
November 29, 2011 or later	10 - 15 days after the test date

# Free GRE revised General Test Preparation Materials For testing in August and beyond

#### A quick view of the question types

- Get a quick view of <u>Verbal Reasoning Question Types</u>.
- Get a quick view of <u>Quantitative Reasoning Question Types</u>.
- Get a quick view of Analytical Writing Question Types.

#### A closer look at the three sections of the test

View general advice, sample questions with rationales, scoring guides and tips for answering question types to become familiar with each of the sections of the revised test:

- Analytical Writing
- Verbal Reasoning
- Quantitative Reasoning

Measure Number of		Standard
	Questions	Time
Analytical	1 Analyze an Issue	30 minutes
Writing	task and	per task
	1 Analyze an	
	Argument task	
Verbal	25 questions per	35 minutes
Reasoning	section	per section
(2 sections)		
Quantitative	25 questions per	40 minutes
Reasoning	section	per section
(2 sections)		

# Analyze an Issue

It is important that you address the central issue according to the specific instructions. Each task is accompanied by one of the following sets of instructions:

- Write a response in which you discuss the extent to which you agree or disagree with the statement and explain your reasoning for the position you take. In developing and supporting your position, you should consider ways in which the statement might or might not hold true and explain how these considerations shape your position.
- Write a response in which you discuss the extent to which you agree or disagree with the
  recommendation and explain your reasoning for the position you take. In developing and
  supporting your position, describe specific circumstances in which adopting the
  recommendation would or would not be advantageous and explain how these examples
  shape your position.

# Analyze an Issue

Claim: Governments must ensure that their major cities receive the financial support they need in order to thrive.

Reason: It is primarily in cities that a nation's cultural traditions are preserved and generated.

Write a response in which you discuss the extent to which you agree or disagree with the claim and the reason on which that claim is based.

# Analyze and Argument: Three potential sets of instructions

- Write a response in which you discuss what specific evidence is needed to evaluate the argument and explain how the evidence would weaken or strengthen the argument.
- Write a response in which you examine the stated and/or unstated assumptions of the argument. Be sure to explain how the argument depends on these assumptions, and what the implications are for the argument if the assumptions prove unwarranted.
- Write a response in which you discuss what questions would need to be answered in order to decide whether the recommendation and the argument on which it is based are reasonable. Be sure to explain how the answers to these questions would help to evaluate the recommendation.

# Analyze an Argument

An important part of performing well on the Argument task is remembering what you are not being asked to do:

- You are not being asked to discuss whether the statements in the argument are true or accurate.
- You are not being asked to agree or disagree with the position stated.
- You are not being asked to express your own views on the subject being discussed (as you were in the Issue task).

Instead, you are being asked to evaluate the logical soundness of an argument of another writer and, in doing so, to demonstrate the critical thinking, perceptive reading and analytical writing skills that university faculty consider important for success in graduate school.

## Verbal Reasoning: No More Antonyms and Analogies. More Focus on Reading.

The GRE revised General Test places a greater emphasis on higher-level cognitive skills. Featuring new types of questions, the Verbal Reasoning section of the revised test more closely reflects the kind of thinking you'll do in graduate or business school, and better measures your ability to understand what you read and how you apply your reasoning skills.

#### Here's what is new for the Verbal Reasoning section:

- Antonyms and analogies have been removed from the test, so there are no questions that test vocabulary out of context.
- New Text Completion questions test your ability to interpret, evaluate and reason from what you've read. Text Completion questions test this ability by omitting crucial words from short passages, requiring you to fill them in by selecting words or phrases.
- New Sentence Equivalence questions test your ability to reach a conclusion about how a sentence should be completed while focusing on the meaning of the whole sentence.
- There are more Reading Comprehension questions on the test, including new types of
  questions, such as selecting multiple correct answer choices instead of just one, or
  highlighting a sentence within a reading passage to answer the question.

#### Reading Comprehension Questions

There are three types of Reading Comprehension questions:

Multiple-choice Questions — Select One Answer Choice: These are the traditional multiplechoice questions with five answer choices of which you must select one.

Multiple-choice Questions — Select One or More Answer Choices: These provide three answer choices and ask you to select all that are correct; one, two or all three of the answer choices may be correct. To gain credit for these questions, you must select all the correct answers, and only those; there is no credit for partially correct answers.

Select-in-Passage: The question asks you to click on the sentence in the passage that meets a certain description. To answer the question, you choose one of the sentences and click on it; clicking anywhere on a sentence will highlight it.

Reading comprehension passages are drawn from the physical sciences, the biological sciences, the social sciences, the arts and humanities, and everyday topics, and are based on material found in books and periodicals, both academic and nonacademic. The passages range in length from one paragraph to four or five paragraphs.

Skilled readers do not simply absorb the information presented on the page; instead, they maintain a constant attitude of interpretation and evaluation, reasoning from what they have read so far to create a picture of the whole and revising that picture as they go. Text Completion questions test this ability by omitting crucial words from short passages and asking the test taker to use the remaining information in the passage as a basis for selecting words or short phrases to fill the blanks and create a coherent, meaningful whole.

#### Question Structure

- Passage composed of one to five sentences
- One to three blanks
- Three answer choices per blank (five answer choices in the case of a single blank)
- The answer choices for different blanks function independently; i.e., selecting one answer choice for one blank does not affect what answer choices you can select for another blank
- Single correct answer, consisting of one choice for each blank; no credit for partially correct answers

1.	It is refreshing to read a book about our planet by an author who does not allow facts to be
	(i) by politics: well aware of the political disputes about the effects of human
	activities on climate and biodiversity, this author does not permit them to (ii)
	his comprehensive description of what we know about our biosphere. He emphasizes the
	enormous gaps in our knowledge, the sparseness of our observations, and the
	(iii), calling attention to the many aspects of planetary evolution that must be
	better understood before we can accurately diagnose the condition of our planet.

Blank (i)	Blank (ii)	Blank (iii)
(A) overshadowed	(D) enhance	(G) plausibility of our hypotheses
(B) invalidated	(E) obscure	(H) certainty of our entitlement
(C) illuminated	(F) underscore	(I) superficiality of our theories

Vain and prone to violence, Caravaggio could not handle success: the more his
 (i) \_\_\_\_\_ his life became.

Blank (i)	Blank (ii)
(A) temperance	(D) tumultuous
(B) notoriety	(E) providential
(C) eminence	(F) dispassionate

#### Explanation

In this sentence, what follows the colon must explain or spell out what precedes it. So, roughly, what the second part must say is that as Caravaggio became more successful, his life got more out of control. When one looks for words to fill the blanks, it becomes clear that "tumultuous" is the best fit for blank (ii), since neither of the other choices suggests being out of control. And for blank (i), the best choice is "eminence," since to increase in eminence is a consequence of becoming more successful. It is true that Caravaggio might also increase in notoriety, but an increase in notoriety as an artist is not as clear a sign of success as an increase in eminence.

Thus the correct answer is choice C (eminence) and choice D (tumultuous).

Reviving the practice of using elements of popular music in classical composition, an approach that had been in hibernation in the United States during the 1960s, composer Philip Glass (born 1937) embraced the ethos of popular music without imitating it. Glass based two symphonies on music by rock musicians David Bowie and Brian Eno, but the symphonies' sound is distinctively his. Popular elements do not appear out of place in Glass's classical music, which from its early days has shared certain harmonies and rhythms with rock music. Yet this use of popular elements has not made Glass a composer of popular music. His music is not a version of popular music packaged to attract classical listeners; it is high art for listeners steeped in rock rather than the classics.

#### Select only one answer choice.

- 1. The passage addresses which of the following issues related to Glass's use of popular elements in his classical compositions?
  - A. How it is regarded by listeners who prefer rock to the classics
  - B. How it has affected the commercial success of Glass's music
  - C. Whether it has contributed to a revival of interest among other composers in using popular elements in their compositions
  - Whether it has had a detrimental effect on Glass's reputation as a composer of classical music
  - E. Whether it has caused certain of Glass's works to be derivative in quality

#### Consider each of the three choices separately and select all that apply.

- The passage suggests that Glass's work displays which of the following qualities?
  - A return to the use of popular music in classical compositions
  - An attempt to elevate rock music to an artistic status more closely approximating that
    of classical music
  - C. A long-standing tendency to incorporate elements from two apparently disparate musical styles
- Select the sentence that distinguishes two ways of integrating rock and classical music.

Question 1: One of the important points that the passage makes is that when Glass uses popular elements in his music, the result is very much his own creation (it is "distinctively his"). In other words, the music is far from being derivative. Thus one issue that the passage addresses is the one referred to in answer choice E — it answers it in the negative. The passage does not discuss the impact of Glass's use of popular elements on listeners, on the commercial success of his music, on other composers or on Glass's reputation, so none of choices A through D is correct. The correct answer is choice E.

Question 2: To answer this question, it is important to assess each answer choice independently. Since the passage says that Glass revived the use of popular music in classical compositions, answer choice A is clearly correct. On the other hand, the passage also denies that Glass composes popular music or packages it in a way to elevate its status, so answer choice B is incorrect. Finally, since Glass's style has always mixed elements of rock with classical elements, answer choice C is correct. Thus the correct answer is choice A and choice C.

Question 3: Almost every sentence in the passage refers to incorporating rock music in classical compositions, but only the last sentence distinguishes two ways of doing so. It distinguishes between writing rock music in a way that will make it attractive to classical listeners and writing classical music that will be attractive to listeners familiar with rock. Thus the correct answer is the last sentence of the passage.

#### Sentence Equivalence Questions

#### Introduction Sample Questions

Like Text Completion questions, Sentence Equivalence questions test the ability to reach a conclusion about how a passage should be completed on the basis of partial information, but to a greater extent they focus on the meaning of the completed whole. Sentence Equivalence questions consist of a single sentence with just one blank, and they ask you to find two choices that lead to a complete, coherent sentence while producing sentences that mean the same thing.

#### **Question Structure**

- Consists of:
  - · a single sentence
  - one blank
  - · six answer choices
- · Requires you to select two of the answer choices; no credit for partially correct answers.

1. Although it does contain some pioneering ideas, one would hardly characterize the work as

\_\_\_\_\_·

- A. orthodox
- B. eccentric
- C. original
- D. trifling
- E. conventional
- F. innovative

#### Explanation

The word "Although" is a crucial signpost here. The work contains some pioneering ideas, but apparently it is not overall a pioneering work. Thus the two words that could fill the blank appropriately are "original" and "innovative." Note that "orthodox" and "conventional" are two words that are very similar in meaning, but neither one completes the sentence sensibly.

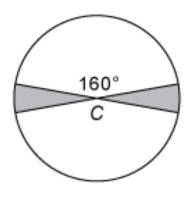
## **Quantitative Section**

- Arithmetic topics include properties and types of integers, such as divisibility, factorization, prime numbers, remainders and odd and even integers; arithmetic operations, exponents and radicals; and concepts such as estimation, percent, ratio, rate, absolute value, the number line, decimal representation and sequences of numbers.
- Algebra topics include operations with exponents; factoring and simplifying algebraic
  expressions; relations, functions, equations and inequalities; solving linear and quadratic
  equations and inequalities; solving simultaneous equations and inequalities; setting up
  equations to solve word problems; and coordinate geometry, including slopes and
  intercepts of lines and graphs of functions, equations and inequalities.
- Geometry topics include parallel and perpendicular lines, circles, triangles including
  isosceles, equilateral and 30°-60°-90° triangles quadrilaterals, other polygons, congruent
  and similar figures, three-dimensional figures, area, perimeter, volume, the Pythagorean
  theorem and angle measurement in degrees. The ability to construct proofs is not tested.
- Data analysis topics include basic descriptive statistics, such as mean, median, mode,
  range, standard deviation, interquartile range, quartiles and percentiles; interpretation of
  data in tables and graphs, such as line graphs, bar graphs, circle graphs, boxplots,
  scatterplots and frequency distributions; elementary probability, such as probabilities of
  compound events and independent events; random variables and probability distributions,
  including normal distributions; and counting methods, such as combinations, permutations
  and Venn diagrams. These topics are typically taught in high school algebra courses or

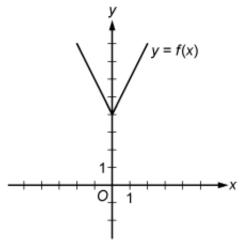
### Quantitative Reasoning Question Types

The Quantitative Reasoning measure has four types of questions:

- Quantitative Comparison Questions
- Multiple-choice Questions Select One Answer Choice
- Multiple-choice Questions Select One or More Answer Choices
- Numeric Entry Questions



- 1. The figure above shows a circle with center C and radius 6. What is the sum of the areas of the two shaded regions?
  - A. 7.5π
  - В. 6л
  - C. 4.5л
  - D. 4π
  - E. 3π



- 2. The figure above shows the graph of a function f, defined by f(x) = |2x| + 4 for all numbers x. For which of the following functions g defined for all numbers x does the graph of g intersect the graph of f?
  - **A.** g(x) = x 2
  - **B.** g(x) = x + 3
  - **C.** g(x) = 2x 2
  - **D.** g(x) = 2x + 3
  - **E.** g(x) = 3x 2

1. If  $x = 10^{-1}$ , what is the value of  $\left(x + \frac{1}{x}\right)\left(\frac{1}{x}\right)$ ?

Answer:

#### Math Review

Familiarize yourself with the mathematical skills and concepts you may see when you take the GRE revised General Test. Includes definitions, properties, examples and a set of exercises with answers at the end of each section.

Download the Math Review (PDF)

#### Math Conventions

Learn more about mathematical assumptions particular to the GRE revised General Test. Includes notation and terminology as well as guidelines for interpreting and using information given in test questions.

Download Math Conventions (PDF)

# What can I take away from the previous brief review of the new GRE?

Do I need a review course ?

# What is my preparation strategy?

- 1. Download relevant content & practice materials.
- 2. Set up my weekly study schedule.
- 3. Develop my timing and familiarity with the test!
- 4. Review the mathematics thoroughly.

# Exam strategies

- Always on the clock!
- How much time per question?
  - Construct a table: time vs. question number
- Other strategies?

## **Mathematics Section**

Elapsed Time	Question #
10 minutes	6 - 7
20 minutes	12 - 13
30 minutes	18 - 19
40 minutes	23 - 25
45 min	25

25 questions in 40 minutes or 1:36 per question

As always with multiple choice exams (and especially since you can reconsider and change correct to incorrect answers), do not look at the answers until you know it. Then find it, mark it, and move on!

## Your week

- Sleep schedule
  - No late nights!
- Maintain exercise or begin to take walks
- Eat well!
- Do not clean your room or do your laundry if it isn't part of your routine.
- Go to the movies, pick up a book, or utilize some other reward.

# The Day Before:

- Normal, routine day
- Do not goof off at work keep busy
  - Plan to be busy with something rewarding
- Leave a little early
- No study!
  - If you must, only 7 items

# The Night Before:

- Whatever
- Watch what you eat!!!!
- Be careful with medications
- Don't go to bed too early or too late
  - No naps!!!

# The Night Before:

- Assemble what you need to take to the test center:
  - Your admission ticket
  - Photo ID
    - Exact name, photo, & signature!
- Lay out your clothes



# **Test Day**

- Be awake > 2 hours before the exam
- Shower and dress for success
- Eat sanely
  - Caffeine? Sugar? Medications?
- Walk and review 7 items (if you must!)
- Arrive to the site early but do not enter early
- Avoid stress mongers
- Be prepared for the unprepared